

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Alexey S. Kabalnov

Confirmation No.: 6545

Application No.: 09/895,468

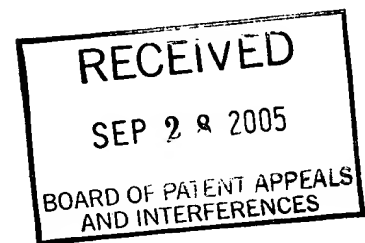
Examiner: Tran, Ly T.

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Group Art Unit: 2853

Title: METHODS FOR DIGITALLY PRINTING ON CERAMICS

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TRANSMITTAL OF REPLY BRIEF

Sir:

Transmitted herewith in *triplicate* is the Reply Brief with respect to the Examiner's Answer mailed on Sept. 26, 2005. This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new grounds of rejection.)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPELLANT:	Kabalnov et al.	CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8 DATE OF DEPOSIT: <u>September 26, 2005</u> I hereby certify that this paper or fee (along with any paper or fee referred to as being attached or enclosed) are being deposited with the United States Postal Service under 37 C.F.R. § 1.8 on the date indicated above and is addressed to: Board of Patent Appeals and Interferences, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. <i>Brenda Wiseman</i> Brenda Wiseman
SERIAL NO.:	09/895,468	
FILED:	June 29, 2001	
FOR:	METHODS FOR DIGITALLY PRINTING ON CERAMICS	
ART UNIT:	2853	
EXAMINER:	Ly T. Tran	
DOCKET NO.:	10003878-1	

APPELLANT'S REPLY BRIEF UNDER 37 C.F.R. § 41.41

Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellant submits this reply brief in response to the Examiner's Answer mailed July 26, 2005 and in connection with Appellant's appeal from the final rejection of the Patent Office, mailed January 13, 2005, in the above-identified application. A Notice of Appeal was filed on April 11, 2005.

I. INTRODUCTION

Appellant responds below to the statements and arguments made in the Examiner's Answer. Arguments and statements by Appellant made earlier but not repeated here are also part of the record for this appeal and are not waived; although they may be modified or supplemented herein. Some of the Examiner's statements and arguments have already been addressed in Appellant's appeal brief and are not repeated herein. Appellant's silence herein with respect to any of the Examiner's statements or arguments does not indicate Appellant's agreement with or acquiescence thereto.

II. ARGUMENT

A. Response to Examiner's "Grounds of Rejection"

The Examiner has mischaracterized the prior art in its "Grounds of Rejection" found in his answer. See Examiner's Answer, pp. 3-5. Several of these mischaracterizations are explained as follows.

The Examiner states that Tognetti et al. (hereinafter "Tognetti") "discloses a method for printing on an article using any types of printing process (Page 2; line 3-15)" See Examiner's Answer, p. 3, emphasis added. This statement is inaccurate. The Examiner's citation to "Page 2; line 3-15" states the following: "The prior art teaches printing processes for reproducing images on ceramic tiles, which processes include silk screening, direct printing, rotgravure, etc...." Tognetti, page 2; lines 3-4. Tognetti only suggests certain printing processes in the prior art that have been used to reproduce images on ceramic tiles. The use of "etc." does not equate to "any type of printing process" and nothing in these lines indicates that any type of printing process

may be used with Tognetti's invention.

The Examiner also incorrectly states that the method of Tognetti comprises "[a]pplying a fluid glazing material to an article creating a coating surface on the article" and "[a]pplying an aqueous chromophore-containing fluid onto the coated surface...." See Examiner's Answer at p.

4. Rather, Tognetti teaches the use of an intervening "waterproof or semi-waterproof" and "continuous and insulating" layer that is between some sort of "upper glazed and non-vitrified surface" and a chromophore-containing fluid. Tognetti, p. 2; lines 45-48 and 31-41 and the abstract. In Tognetti, the chromophore-containing fluid is applied to this intervening waterproof layer and not to the "coated surface" formed by a "glazing material." Since Appellant's invention applies the chromophore-containing fluid directly to glazing material, Tognetti fails to teach this element of Appellant's invention.

The Examiner also incorrectly states that "the fluid glazing material contains an underprinting agent (Page 2: line 33-35)...." The Examiner's citation at Page 2; line 33-35 shows that he is referring to the intervening "waterproof or semi-waterproof" and "continuous and insulating" layer of Tognetti. This intervening layer is simply not the equivalent of Appellant's "underprinting agent." Appellant's "underprinting agent" is specifically defined in its specification as including any chemical that interacts with the chromophore compound to form an insoluble precipitate [...] or otherwise alters the solubility and/or mobility of the chromophore...." See Appellant's Patent Application, p. 9, emphasis added. Nothing in Tognetti meets such a description of an "underprinting agent." In fact, the intervening waterproof layer of Tognetti is equated to a barrier, which is specifically designed so that its colored fluid does not contact the glazing material and further causes the colored fluid to disperse

for ornamental effects.

On the other hand, the underprinting agent of the present invention is not an intervening layer or barrier. Appellant's underprinting agent facilitates contact and fixation between the chromophores and the fluid glazing material. As recognized by those skilled in the art (and as can be easily deduced from Appellant's specification), an underprinting agent (meeting Appellant's definition) mixes and/or reacts with the aqueous chromophore-containing fluid. As such, at least a portion of the chromophores in the aqueous chromophore-containing fluid become fixed directly to the coated surface formed by the glazing material. Thus, the terms of the claims are met with respect to the step of printing the aqueous chromophore-containing fluid onto the coated surface.

Additionally, the purpose of applying such an underprinting agent is merely to enhance the resolution of the image, not to prevent the chromophores from contacting the glaze. Tognetti purposely attempts to keep the glazing material separate and distinct from the colorant (by use of an intervening waterproof layer or barrier) so that the colorant becomes mobile to achieve dispersion of the colored fluid. When using the underprinting agent (and in other embodiments as well), the Appellant's invention is precisely designed to prevent dispersion or bleeding of the chromophores, as well as to promote contact and fixation directly between the fluid glazing material and the chromophores of the aqueous chromophore-containing fluid. See Appellant's Patent Application at pp. 9-10. A careful reading of the Appellant's claims clearly shows that the fluid glazing material is applied to an article creating a coated surface on the article, and that the aqueous chromophore-containing fluid is jetted onto the coated surface. In all embodiments described in the specification and claimed in the application, the aqueous chromophore-

containing fluid is applied onto the coated surface.

Similarly, the Examiner's statement that the method of Tognetti comprises a "fluid primer" is incorrect. Appellant's specification defines "primer" as "any fluid that contains an underprinting agent." See Appellant's Patent Application, p. 10. Since Tognetti fails to disclose an "underprinting agent" as defined by Appellant's specification, Tognetti also fails to disclose a "primer."

With respect to the remainder of the Examiner's "Grounds of Rejection," Appellant reasserts the arguments made in its appeal brief.

B. Response to Examiner's "Response to Argument"

The Examiner argues that there is motivation to combine Tognetti and Pfaff because Tognetti discloses "direct printing" and because Pfaff discloses that ink-jet technology can be used for either direct or indirect printing. See Examiner's Answer, p. 6. The Examiner states that "direct printing as understood by skilled artisans involves any printing process that has direct or uninterrupted transfer of the ink to the medium." Id. However, the Examiner fails to offer any support that this definition is understood and accepted by skilled artisans. Moreover, Tognetti's use of "direct printing" is unclear as there is no explanation in Tognetti as to what "direct printing" entails.

Even if the Examiner's definition is accepted, the use of "direct printing" by Tognetti and Pfaff has no bearing on whether Tognetti and Pfaff are combinable. The Examiner's definition is extremely broad, such that "direct printing" and "indirect printing" covers all types of printing, and the definition does not have relevance to the technological differences between ink-jet

printing and other printing technologies such as those specifically exemplified in Tognetti. The Examiner might as well have said that both Tognetti and Pfaff teach “printing.” In other words, the fact that ink-jet technology can be used to print directly on an object does not by itself provide any motivation or reasonable expectation of success that ink-jet printing can be used in connection with Tognetti.

As discussed in Appellant’s appeal brief, there must be some suggestion or motivation in the references to modify or combine them, and there must be a reasonable expectation of success. There is no suggestion or motivation in Tognetti to use ink-jet printing. Additionally, there is no suggestion or motivation in Pfaff to modify Tognetti. Pfaff uses a non-aqueous thermoplastic paste, which would not create the dispersion and ornamental “bleeding” effects on the waterproof layer intended in Tognetti. As such, there would not be any expectation of success by combining Tognetti and Pfaff.

The Examiner also argues that it is obvious to modify Tognetti with Pfaff and use the “ink jet to print on the ceramic for the purpose of achieving a good result such as obtaining high resolution, high-quality color image at a high printing speed or less noise generation. See Examiner’s Answer at pp. 6-7. As discussed above, Tognetti’s invention is designed to cause dispersion and “bleeding” ornamental effects. High resolution is not desired. High-quality color image, high printing speed, and less noise generation are not contemplated by Tognetti, and in fact, are discouraged. Similarly, Pfaff is an unconventional ink jet technology and the reference does not specifically disclose high resolution, high-quality color image, high printing speed, or less noise generation. Since it is an unconventional method, it cannot be assumed that Pfaff possesses these qualities.

The Examiner further argues that “Tognetti discloses applying an aqueous chromophore-containing fluid onto the coated surface, the fluid primer contacts the chromophore-containing fluid....” Id. at p. 6. As discussed above in response to the Examiner’s “Grounds of Rejection,” Tognetti has an intervening “waterproof or semi-waterproof” and “continuous and insulating” layer. Tognetti’s chromophore-containing fluid is not applied directly to a coated surface formed by the glazing material as in Appellant’s invention. Moreover, Tognetti does not disclose a “primer” as defined by Appellant’s specification. Accordingly, the combination of Tognetti and Pfaff does not teach all of the elements of Appellant’s invention.

The Examiner states that Appellant’s argument that Pfaff teaches away from Appellant’s invention is unpersuasive. See Examiner’s Answer at p. 7. The Examiner further states that “the failure problem in the ink jet printer as Applicant pointed out the [sic] column 2; line 3-8 is only a prior art problem” and that “Pfaff’s invention is to overcome this problem by still using inkjet printer technology to print on the ceramic.” Id. Appellant disagrees. Pfaff did not solve the problem of the tendency of color powders to settle out from aqueous or alcoholic suspensions and blocking the print nozzles. Rather, Pfaff used an unconventional heated non-aqueous thermodynamic paste for printing through the nozzles. As such, Pfaff does not teach the ability to use ink-jet technology to print aqueous chromophore-containing fluid. The problem was merely identified and solved using a completely different type of ink (a non-aqueous melt). Accordingly, there is no motivation or expectation of success to use ink-jet printing in connection with Tognetti’s aqueous chromophore-containing fluid. As such, Appellant maintains that Pfaff teaches away from Appellant’s invention and reasserts those arguments made in Appellant’s appeal brief.

The Examiner also states that Appellant's argument that "neither reference, alone or in combination, teaches the jetting of aqueous chromophore-containing fluid" is unpersuasive. See Examiner's Answer at p. 7. The Examiner argues that "Tognetti only lacks using an ink jet printer" and that it is obvious to use the ink jet printer in Pfaff to modify Tognetti. Id. Appellant disagrees. Tognetti teaches use of an aqueous chromophore-containing fluid. Pfaff teaches the jetting of a non-aqueous paste (which is liquefied by melting), and fails to teach the jetting of an aqueous chromophore-containing fluid (and in fact nicely states the problem solved by the Appellant). As such, the jetting of an aqueous chromophore-containing fluid for printing on ceramics is not taught or suggested by either reference, alone or in combination. Therefore, Appellant maintains that the references fail to teach the jetting of an aqueous chromophore-containing fluid and reasserts those arguments made in Appellant's appeal brief.

III. CONCLUSION

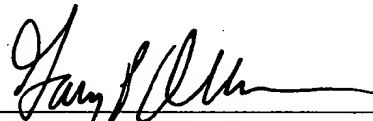
In conclusion, Appellant respectfully submits that the claims on appeal are patentably distinct over the asserted prior art references. As set forth in Appellant's appeal brief and herein, none of the asserted references, nor the combination thereof, motivates, teaches, or suggests with the requisite specificity to one of ordinary skill in the art, within the meaning of 35 U.S.C. § 103, to arrive at the presently claimed invention. Both Tognetti and Pfaff also teach away from the claimed invention. Moreover, Appellant contends that even if such combinations were made, that each and every element is not present in the combination of Tognetti and Pfaff with respect to claims 1-4, and that other combinations fail to provide for a *prima facie* case of obviousness as asserted by the Examiner. Further, Appellant submits that the obviousness rejections are based

on an erroneous hindsight reconstruction of the references in view of Appellant's specification and claims, rather than solely on the information contained in the cited references and the knowledge available to one of ordinary skill in the art at the time the invention was made.

Since the Patent Office has not met its initial burden of establishing a *prima facie* case of obviousness, Appellant respectfully submits that the rejection is improper, and should be overturned.

For at least these reasons, Appellant submits that the pending claims are patentable, and respectfully request that this honorable Board of Appeals reverse all the rejections and remand the case to the Examiner for allowance.

Dated this 26th day of September, 2005.



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